

In the Claims

1. (Currently amended) A process for improving delivery reproducibility of a cyclosiloxane precursor to a chemical vapor deposition reactor and reducing water content in the cyclosiloxane precursor ~~to a level that minimizes premature polymerization in transport to the chemical vapor deposition reactor, the process~~ comprising the steps of:
  - (a) providing a cyclosiloxane precursor;
  - (b) treating and contacting ~~said~~ the cyclosiloxane precursor with at least one adsorbent bed material that has an affinity for water and at least one impurity selected from the group consisting of acidic and basic impurities from said cyclosiloxane precursor for a sufficient time to reduce the water and impurities in the cyclosiloxane precursor ~~to a level that minimizes premature polymerization; and~~
  - (c) separating a the ~~purified~~ cyclosiloxane precursor from the at least one adsorbent bed material, to produce a purified cyclosiloxane precursor, wherein the water content is less than 20 ppm;
  - ~~(e)-(d)~~ vaporizing ~~said~~ the purified cyclosiloxane precursor; and
  - ~~(d)-(e)~~ delivering vapor of ~~said~~ the purified cyclosiloxane precursor to said chemical vapor deposition reactor, wherein treatment of the cyclosiloxane precursor functions to prevent or minimize premature polymerization of ~~said~~ the cyclosiloxane precursor in the chemical vapor deposition reactor and associated delivery lines and improves delivery reproducibility of the cyclosiloxane precursor.
2. (Cancelled).
3. (Previously presented) The process according to claim 1, wherein said at least one impurity is acidic.
4. (Previously presented) The process according to claim 1, wherein said at least one impurity is basic.
5. (Currently amended) The process according to claim 1, wherein the ~~said~~ cyclosiloxane precursor comprises the formula  $[RR'Si-O]_n$ , wherein each of R and R' is same or different and

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independently selected from the group consisting of hydrogen, hydroxyl, C<sub>1</sub>-C<sub>8</sub> alkyl, C<sub>1</sub>-C<sub>8</sub> alkoxy, C<sub>1</sub>-C<sub>8</sub> alkene, C<sub>1</sub>-C<sub>8</sub> alkyne, and C<sub>1</sub>-C<sub>8</sub> carboxyl; and n is from 2 to 8.

6. (Original) The process according to claim 1, wherein the cyclosiloxane precursor is selected from the group consisting of polyhedral oligomeric silsesquioxanes (POSS), octamethylcyclotetrasiloxane (OMCTS), hexamethylcyclotetrasiloxane (HMCTS), tetramethylcyclotetrasiloxane (TMCTS), and mixtures thereof.
7. (Original) The process according to claim 1, wherein the cyclosiloxane precursor is 1,3,5,7-tetramethylcyclotetrasiloxane.
- 8.-9. (Cancelled).
10. (Currently amended) The process according to claim 1, wherein the at least one said adsorbent bed material is selected from the group consisting of: silica gel, molecular sieves, aluminum oxide, carbon, calcium oxide, calcium chloride, sodium sulfate, magnesium perchlorate, phosphorus pentoxide, silicide, metals, and metal hydrides.
11. (Currently amended) The process according to claim 10, wherein the at least one adsorbent bed material is calcium oxide.
12. (Currently amended) The process according to claim 10, wherein the at least one adsorbent bed material is calcium hydride.
13. (Currently amended) The process according to claim 10, wherein the at least one adsorbent bed material comprises a combination of adsorbents.
14. (Previously presented) The process according to claim 10, wherein the cyclosiloxane precursor is further contacted with a second adsorbent bed material.
15. (Currently amended) The process according to claim 10, wherein ~~said~~ the purified cyclosiloxane precursor is removed from the at least one ~~said~~ adsorbent bed material by distillation.

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16. (Currently amended) The process according to claim 10, wherein ~~said~~ the purified cyclosiloxane precursor is removed from the at least one ~~said~~ adsorbent bed material by decantation.
17. (Currently amended) The process according to claim 10, wherein ~~said~~ the purified cyclosiloxane precursor is removed from the at least one ~~said~~ adsorbent bed material by pump.
18. (Currently amended) A process for improving delivery reproducibility of a cyclosiloxane precursor to a chemical vapor deposition reactor by reducing water content and impurities in the cyclosiloxane precursor, the process comprising the steps of:  
    (a) providing a cyclosiloxane precursor;  
    (b) treating and contacting the cyclosiloxane precursor with at least one adsorbent bed material that has an affinity for water and at least one impurity selected from the group consisting of acidic and basic impurities from said cyclosiloxane precursor for a sufficient time to reduce the water and impurities in the cyclosiloxane precursor; and  
    (c) separating the cyclosiloxane precursor from the at least one adsorbent bed material, to produce a purified cyclosiloxane precursor ~~The process according to claim 1,~~ wherein said purified cyclosiloxane precursor comprises  $< 0.001\%$  of the at least one impurity.
19. (Currently amended) A process for improving delivery reproducibility of a cyclosiloxane precursor to a chemical vapor deposition reactor by reducing water content and impurities in the cyclosiloxane precursor, the process comprising the steps of:  
    (a) treating and contacting the cyclosiloxane precursor with at least one adsorbent bed material that has an affinity for water and at least one impurity selected from the group consisting of acidic and basic impurities from said cyclosiloxane precursor for a sufficient time to reduce the water and impurities in the cyclosiloxane precursor; and  
    (b) separating the cyclosiloxane precursor from the at least one adsorbent bed material, to produce a purified cyclosiloxane precursor ~~The process according to claim 1,~~ wherein said purified cyclosiloxane precursor comprises  $< 0.00001\%$  of the at least one impurity.
20. (Cancelled).
21. (Currently amended) A process for improving delivery reproducibility of a cyclosiloxane precursor to a chemical vapor deposition reactor by reducing water content in the cyclosiloxane precursor, the process comprising the steps of:

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(a) treating and contacting the cyclosiloxane precursor with at least one adsorbent bed material that has an affinity for water and at least one impurity selected from the group consisting of acidic and basic impurities from said cyclosiloxane precursor for a sufficient time to reduce the water and impurities in the cyclosiloxane precursor; and

(b) separating the cyclosiloxane precursor from the at least one adsorbent bed material, to produce a purified cyclosiloxane precursor ~~The process according to claim 1,~~ wherein said purified cyclosiloxane precursor comprises less than 0.001% of water.

22- 46. (Canceled).